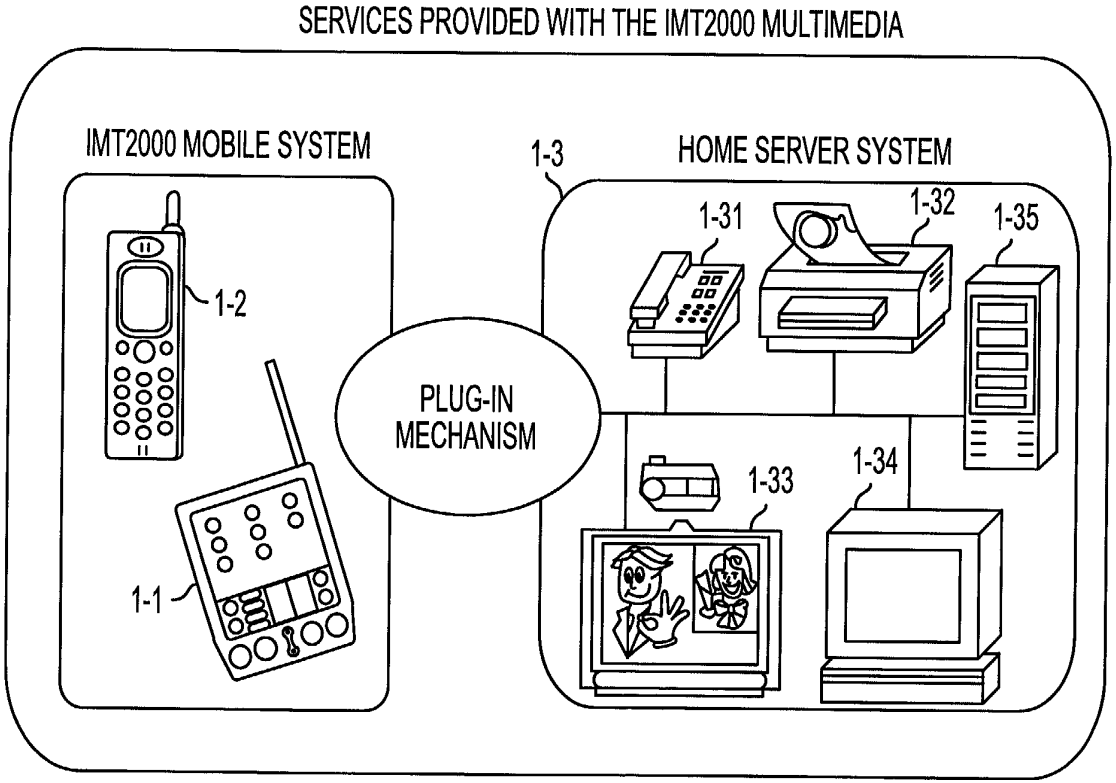
SERVICES PROVIDED WITH THE IMT2000 MULTIMEDIA
IMT2000 MOBILE SYSTEM
1-2
1-1
PLUG-IN MECHANISM
1-3
HOME SERVER SYSTEM
1-31
1-32
1-35
1-33
1-34

FIG. 1

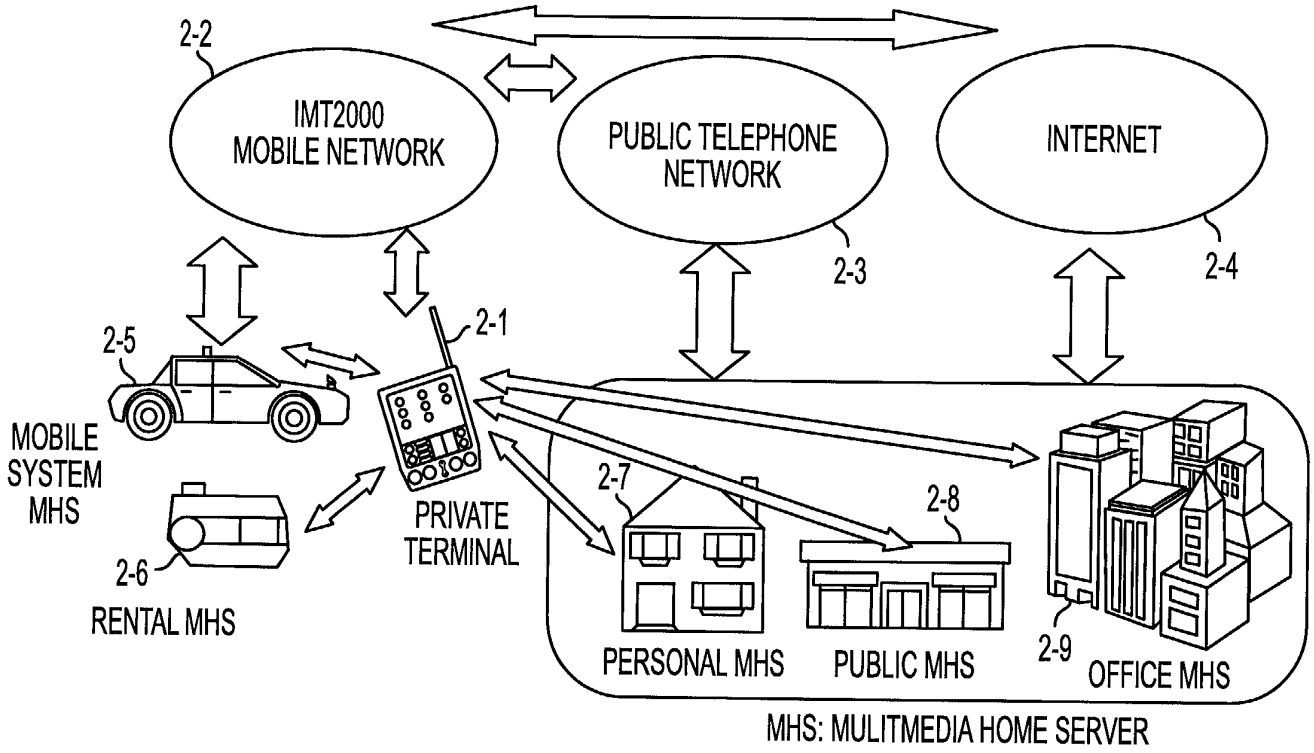
2-2
IMT2000
MOBILE NETWORK
PUBLIC TELEPHONE
NETWORK
2-3
INTERNET
2-4
2-1
2-5
MOBILE
SYSTEM
MHS
PRIVATE
TERMINAL
2-6
RENTAL MHS
2-7
2-8
PERSONAL MHS
PUBLIC MHS
2-9
OFFICE MHS
MHS: MULITMEDIA HOME SERVER

FIG. 2

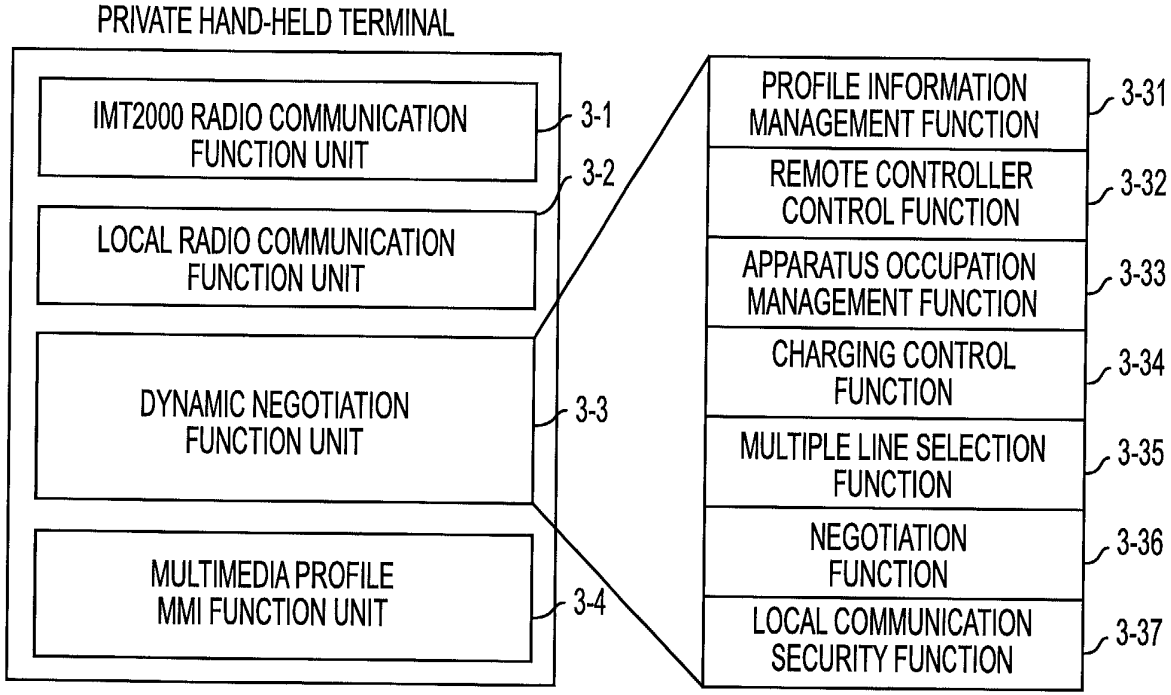
PRIVATE HAND-HELD TERMINAL
IMT2000 RADIO COMMUNICATION FUNCTION UNIT
3-1
LOCAL RADIO COMMUNICATION FUNCTION UNIT
3-2
DYNAMIC NEGOTIATION FUNCTION UNIT
3-3
MULTIMEDIA PROFILE MMI FUNCTION UNIT
3-4
PROFILE INFORMATION MANAGEMENT FUNCTION
3-31
REMOTE CONTROLLER CONTROL FUNCTION
3-32
APPARATUS OCCUPATION MANAGEMENT FUNCTION
3-33
CHARGING CONTROL FUNCTION
3-34
MULTIPLE LINE SELECTION FUNCTION
3-35
NEGOTIATION FUNCTION
3-36
LOCAL COMMUNICATION SECURITY FUNCTION
3-37

FIG. 3

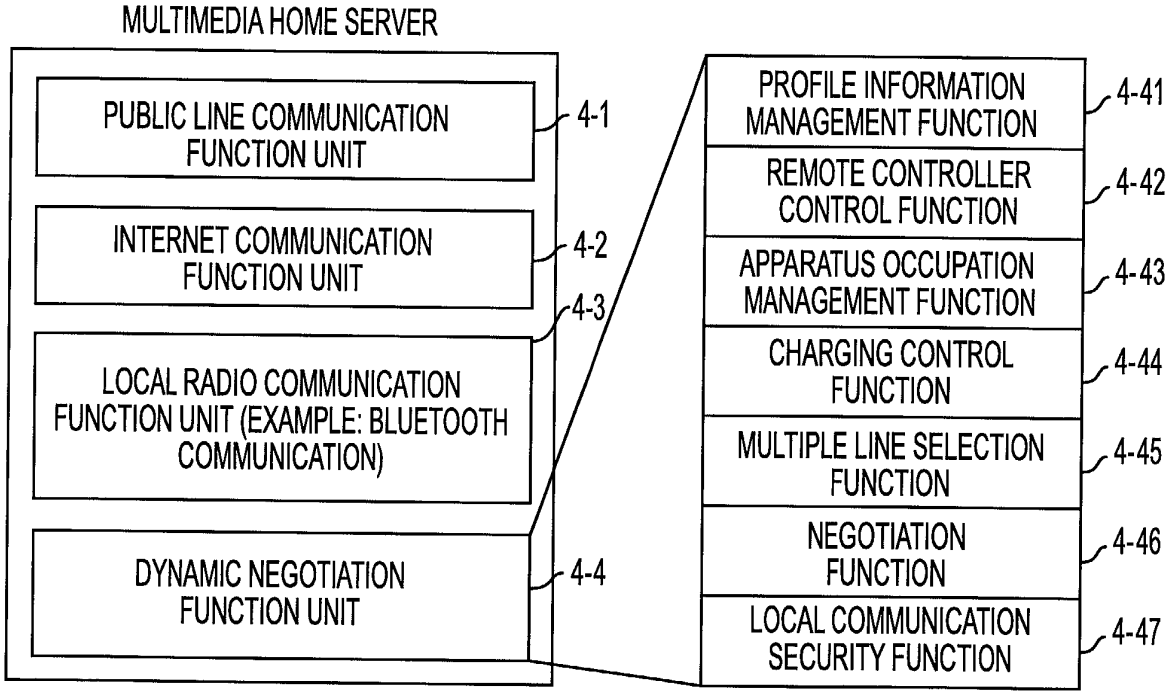
MULTIMEDIA HOME SERVER
PUBLIC LINE COMMUNICATION FUNCTION UNIT
4-1
INTERNET COMMUNICATION FUNCTION UNIT
4-2
LOCAL RADIO COMMUNICATION FUNCTION UNIT (EXAMPLE: BLUETOOTH COMMUNICATION)
4-3
DYNAMIC NEGOTIATION FUNCTION UNIT
4-4
PROFILE INFORMATION MANAGEMENT FUNCTION
4-41
REMOTE CONTROLLER CONTROL FUNCTION
4-42
APPARATUS OCCUPATION MANAGEMENT FUNCTION
4-43
CHARGING CONTROL FUNCTION
4-44
MULTIPLE LINE SELECTION FUNCTION
4-45
NEGOTIATION FUNCTION
4-46
LOCAL COMMUNICATION SECURITY FUNCTION
4-47

FIG. 4

US 2002/0023060 A1

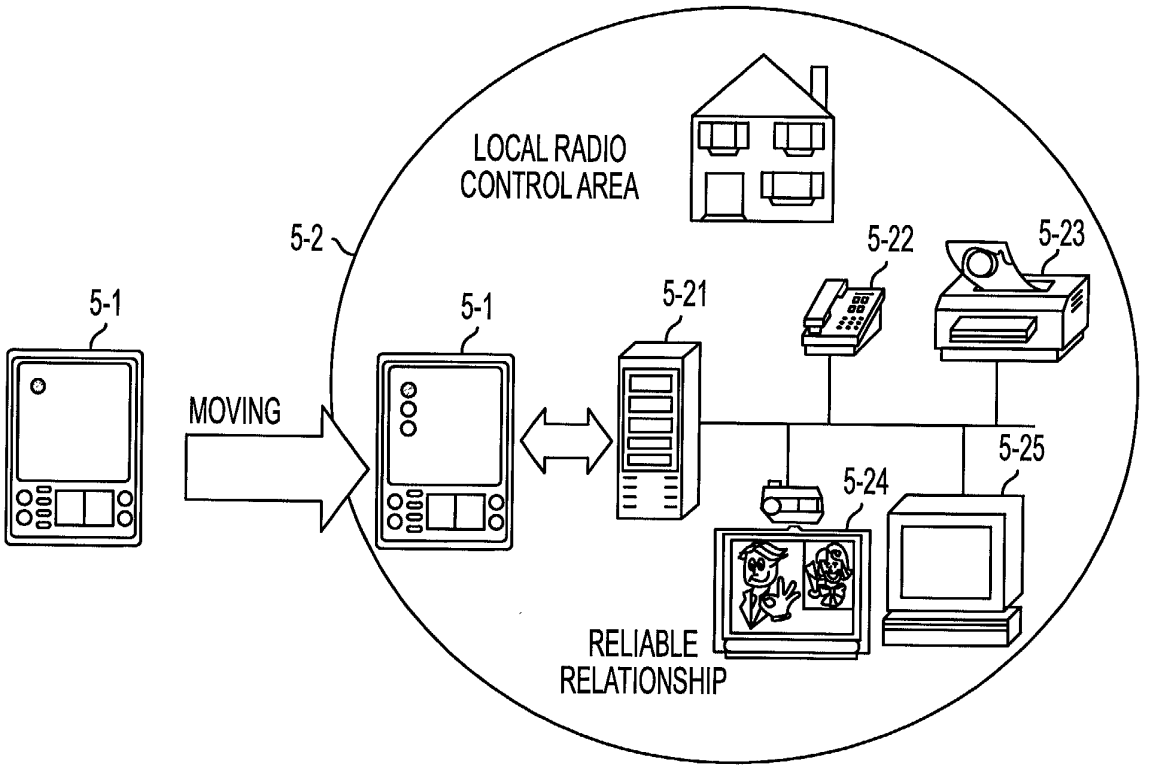

FIG. 5

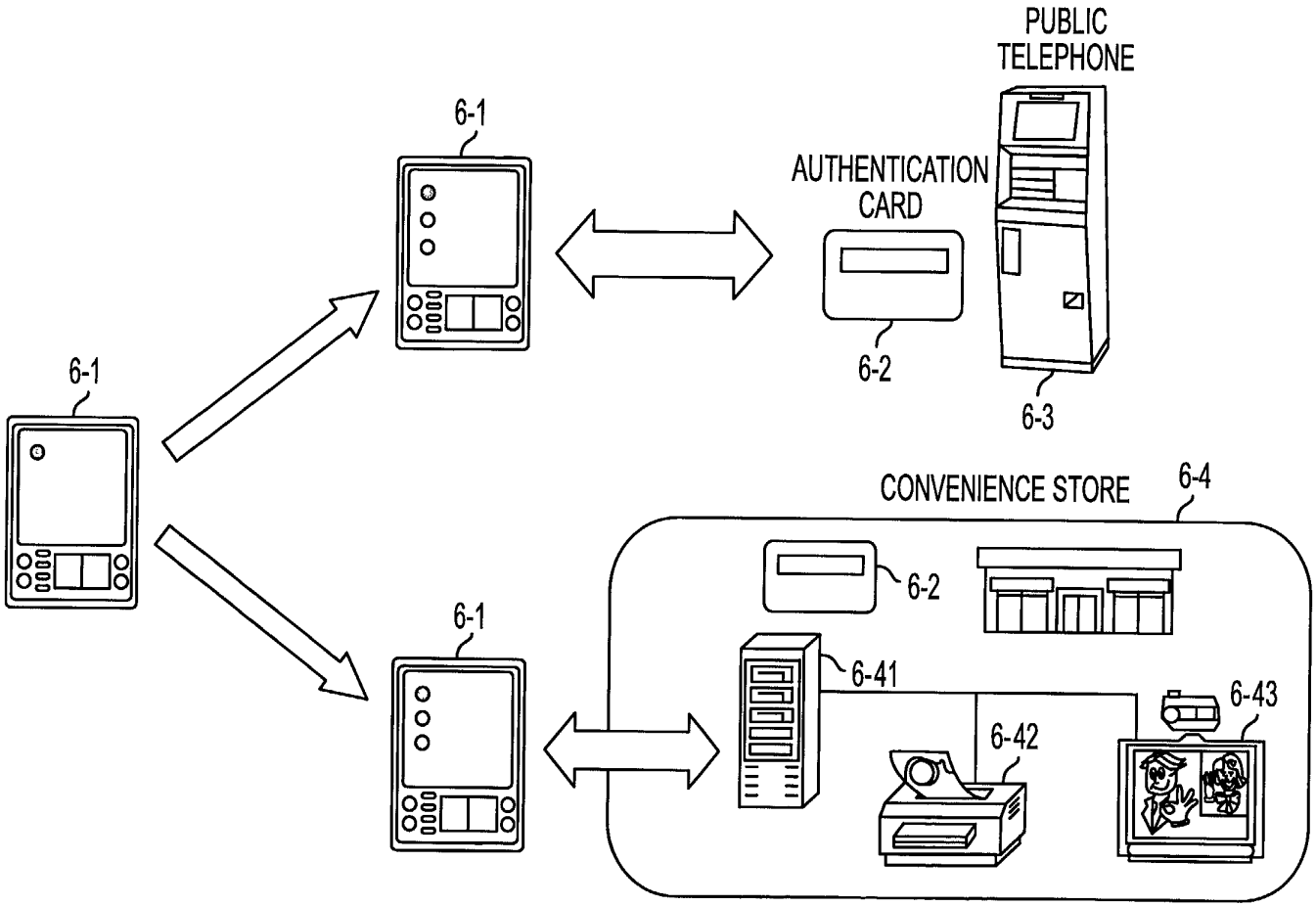
PUBLIC
TELEPHONE
6-1
AUTHENTICATION
CARD
6-2
6-3
6-1
CONVENIENCE STORE
6-4
6-2
6-1
6-41
6-43
6-42

FIG. 6

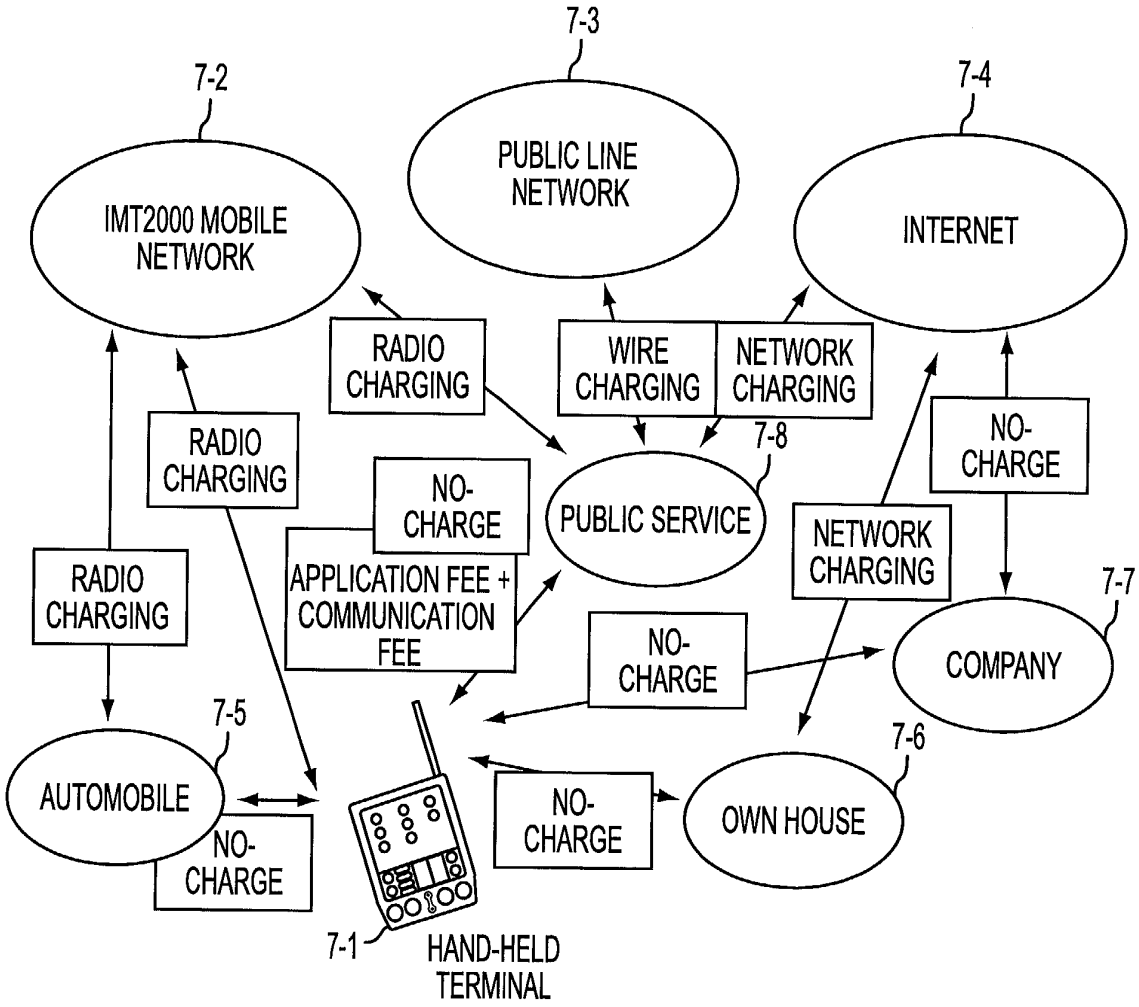
7-3
7-2
7-4
PUBLIC LINE NETWORK
IMT2000 MOBILE NETWORK
INTERNET
RADIO CHARGING
WIRE CHARGING
NETWORK CHARGING
RADIO CHARGING
7-8
NO-CHARGE
NO-CHARGE
PUBLIC SERVICE
NETWORK CHARGING
RADIO CHARGING
APPLICATION FEE + COMMUNICATION FEE
7-7
NO-CHARGE
COMPANY
7-5
7-6
AUTOMOBILE
NO-CHARGE
NO-CHARGE
OWN HOUSE
7-1
HAND-HELD TERMINAL

FIG. 7

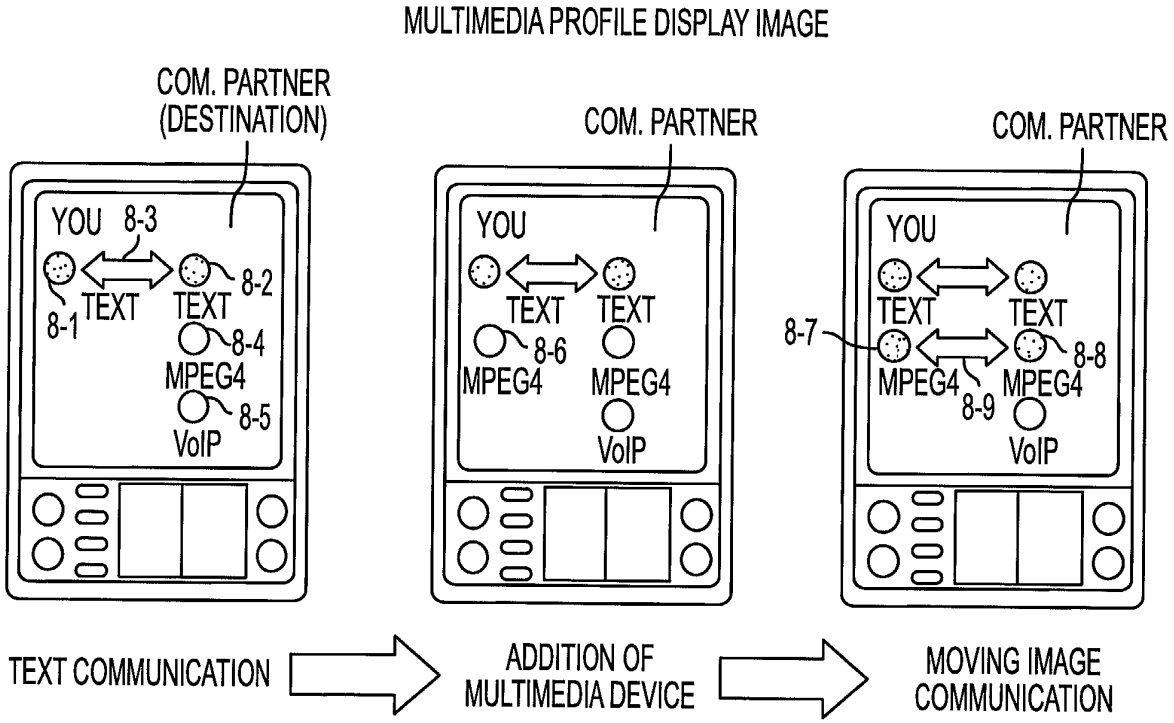
MULTIMEDIA PROFILE DISPLAY IMAGE
COM. PARTNER (DESTINATION)
COM. PARTNER
COM. PARTNER
YOU
8-3
8-1
TEXT
TEXT
8-2
8-4
MPEG4
8-5
VoIP
YOU
TEXT
TEXT
8-6
MPEG4
MPEG4
VoIP
YOU
8-7
TEXT
TEXT
8-8
MPEG4
8-9
MPEG4
VoIP
TEXT COMMUNICATION
ADDITION OF MULTIMEDIA DEVICE
MOVING IMAGE COMMUNICATION

FIG. 8

PROFILE ITEMS	
LANGUAGE, CHARACTER, CODE	EXAMPLE : JAPANESE, UCS2, SHIFT[ ]S
DISPLAY FRAME SIZE	EXAMPLE : 182 X 256
DYNAMIC NEGOTIATION FUNCTION	EXAMPLE : PROVIDED/NOT-PROVIDED
CLASS OF MEDIA	EXAMPLE : CHARACTER, AUDIO, IMAGE, VIDEO
MEDIA DEVICE IDENTIFICATION	EXAMPLE : XXX12345JP
MEDIA TYPE	EXAMPLE : MEDIA CLASS UNIT (MPEG4, QT)
TRANSFER BEARER	EXAMPLE : PACKET 64, PACKET 128, PACKET 384
INPUT/OUTPUT DEVICE TYPE	EXAMPLE : KEY, SCREEN, DISPLAY, PRINTER
MEDIA RECEIVING BUFFER	EXAMPLE : 1 M byte
MEDIA QUALITY CONTROL	EXAMPLE : QoS PROVIDED/QoS NOT-PROVIDED

FIG. 9

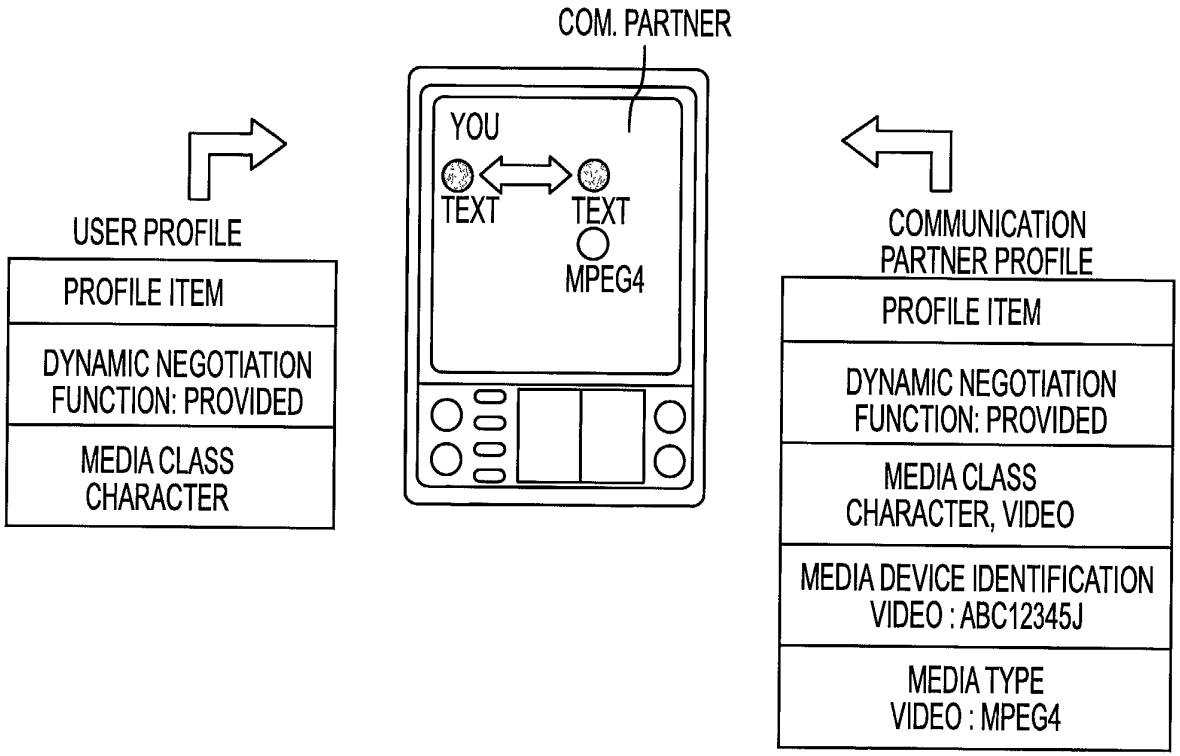
COM. PARTNER
YOU
TEXT
TEXT
MPEG4
USER PROFILE
PROFILE ITEM
DYNAMIC NEGOTIATION FUNCTION: PROVIDED
MEDIA CLASS CHARACTER
COMMUNICATION PARTNER PROFILE
PROFILE ITEM
DYNAMIC NEGOTIATION FUNCTION: PROVIDED
MEDIA CLASS CHARACTER, VIDEO
MEDIA DEVICE IDENTIFICATION VIDEO : ABC12345J
MEDIA TYPE VIDEO : MPEG4

FIG. 10

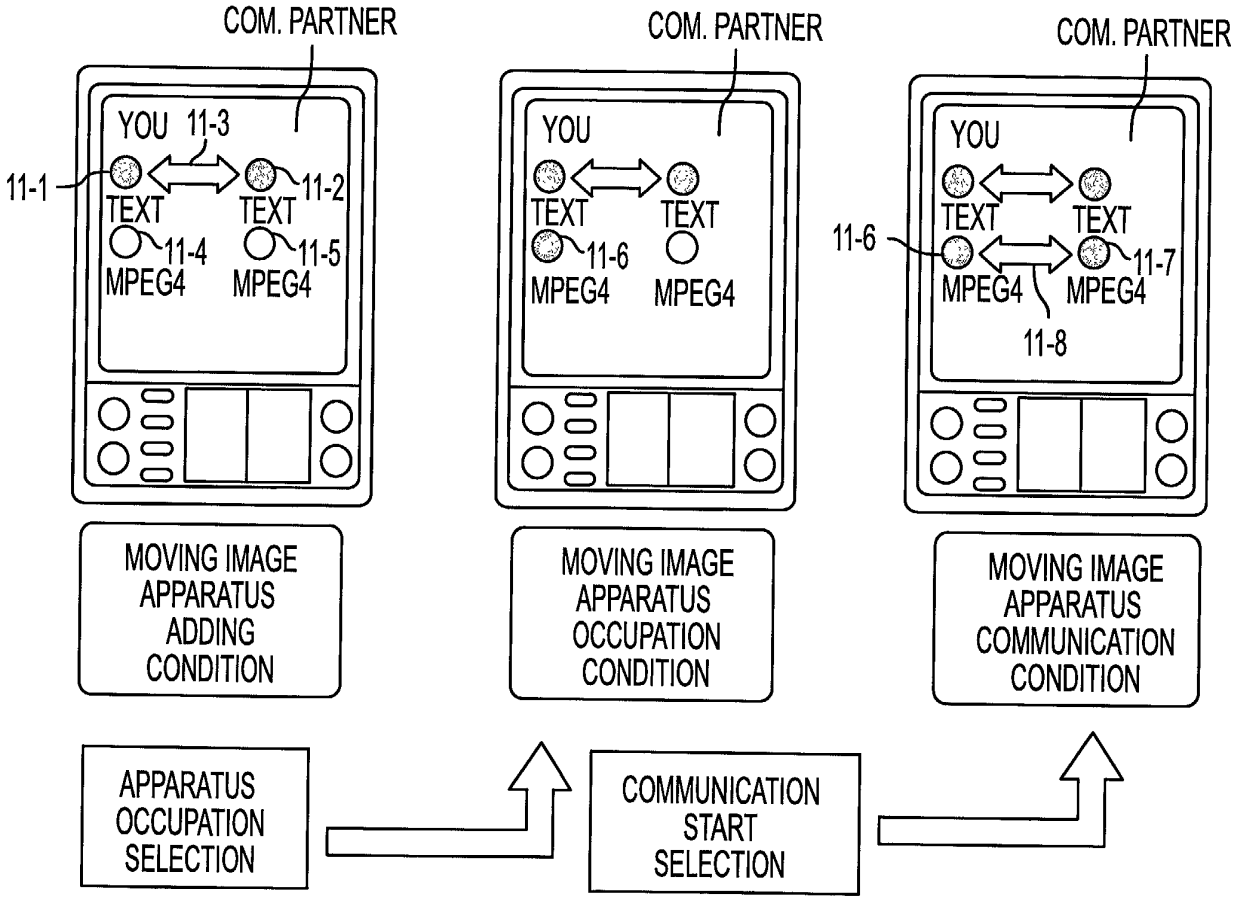
COM. PARTNER
YOU
11-3
11-1
11-2
TEXT
TEXT
11-4
11-5
MPEG4
MPEG4
MOVING IMAGE APPARATUS ADDING CONDITION
COM. PARTNER
YOU
TEXT
TEXT
11-6
MPEG4
MPEG4
MOVING IMAGE APPARATUS OCCUPATION CONDITION
COM. PARTNER
YOU
11-6
TEXT
TEXT
11-7
MPEG4
MPEG4
11-8
MOVING IMAGE APPARATUS COMMUNICATION CONDITION
APPARATUS OCCUPATION SELECTION
COMMUNICATION START SELECTION

FIG. 11

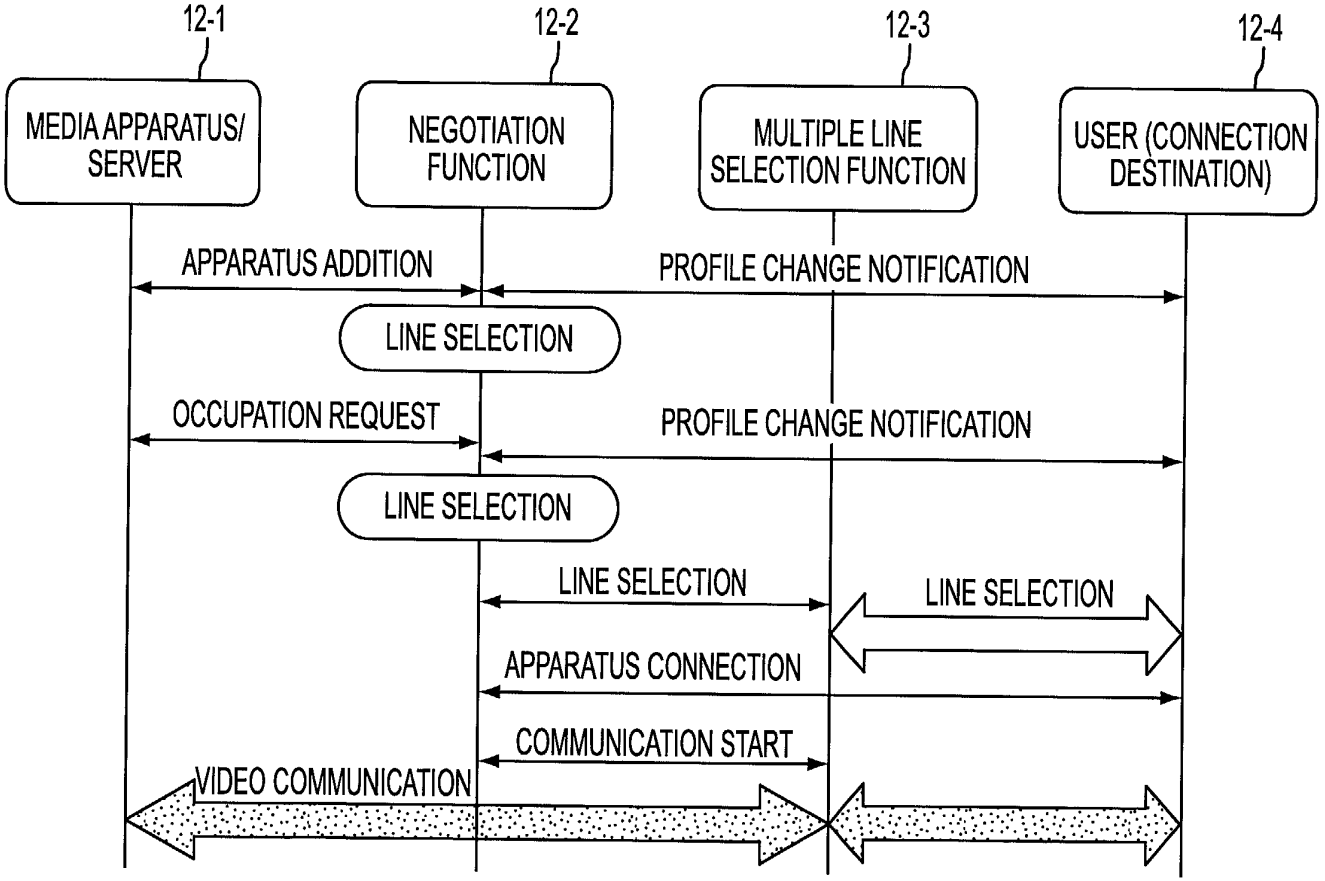
12-1
12-2
12-3
12-4
MEDIA APPARATUS/ SERVER
NEGOTIATION FUNCTION
MULTIPLE LINE SELECTION FUNCTION
USER (CONNECTION DESTINATION)
APPARATUS ADDITION
PROFILE CHANGE NOTIFICATION
LINE SELECTION
OCCUPATION REQUEST
PROFILE CHANGE NOTIFICATION
LINE SELECTION
LINE SELECTION
LINE SELECTION
APPARATUS CONNECTION
COMMUNICATION START
VIDEO COMMUNICATION

FIG. 12

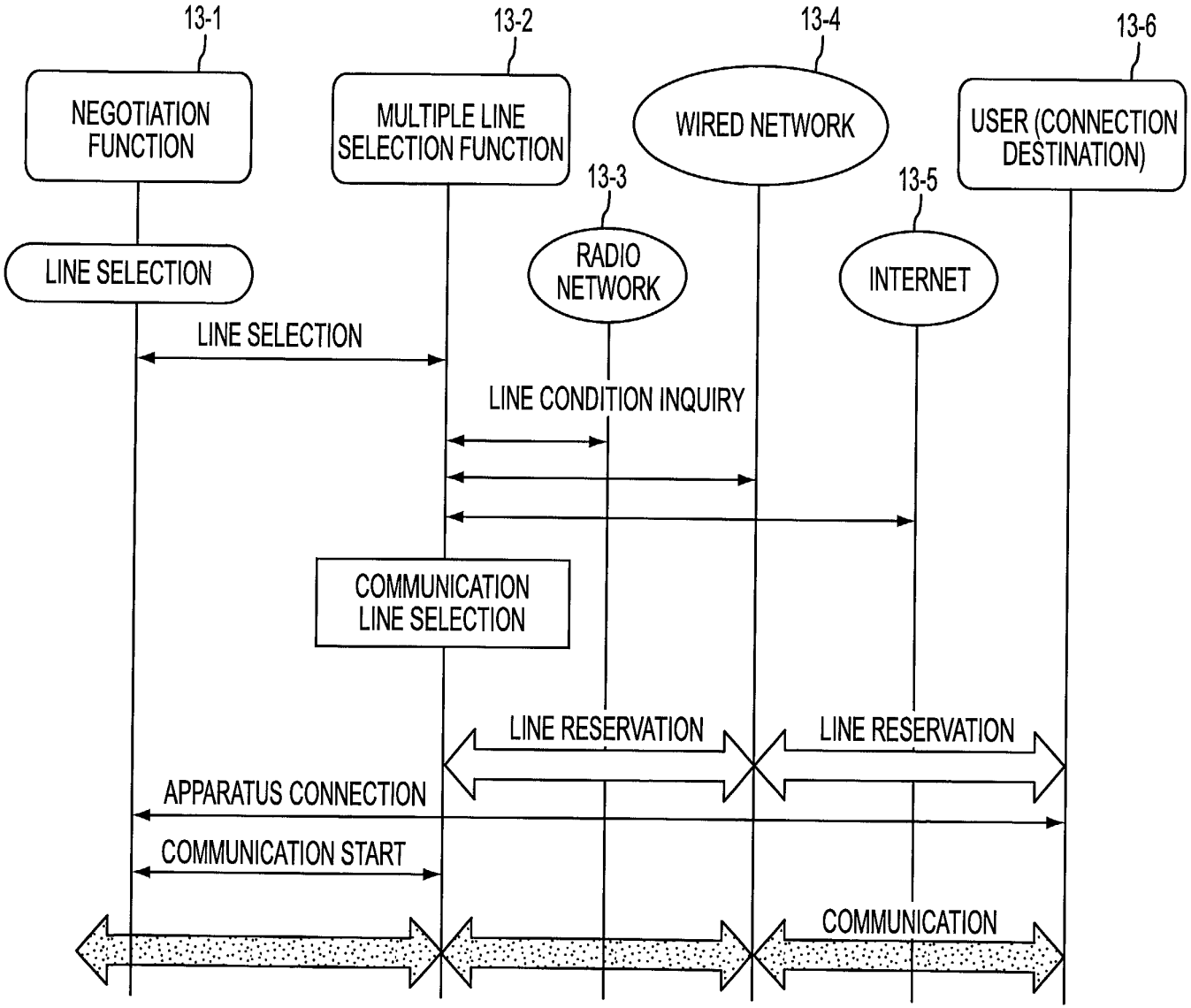
13-1
13-2
13-4
13-6
NEGOTIATION FUNCTION
MULTIPLE LINE SELECTION FUNCTION
WIRED NETWORK
USER (CONNECTION DESTINATION)
13-3
13-5
LINE SELECTION
RADIO NETWORK
INTERNET
LINE SELECTION
LINE CONDITION INQUIRY
COMMUNICATION LINE SELECTION
LINE RESERVATION
LINE RESERVATION
APPARATUS CONNECTION
COMMUNICATION START
COMMUNICATION

FIG. 13

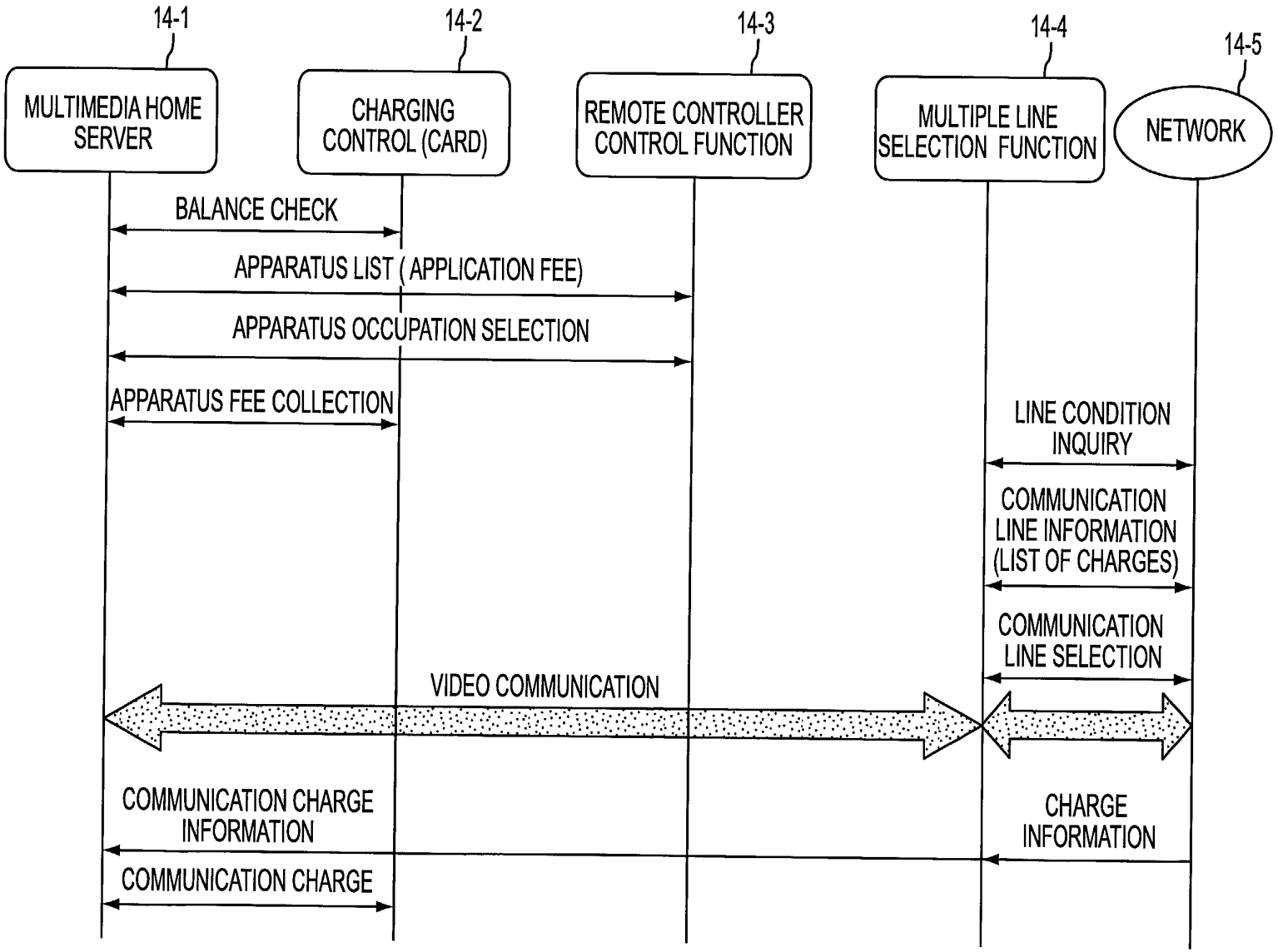
14-1
14-2
14-3
14-4
14-5
MULTIMEDIA HOME SERVER
CHARGING CONTROL (CARD)
REMOTE CONTROLLER CONTROL FUNCTION
MULTIPLE LINE SELECTION FUNCTION
NETWORK
BALANCE CHECK
APPARATUS LIST (APPLICATION FEE)
APPARATUS OCCUPATION SELECTION
APPARATUS FEE COLLECTION
LINE CONDITION INQUIRY
COMMUNICATION LINE INFORMATION (LIST OF CHARGES)
COMMUNICATION LINE SELECTION
VIDEO COMMUNICATION
COMMUNICATION CHARGE INFORMATION
CHARGE INFORMATION
COMMUNICATION CHARGE

FIG. 14

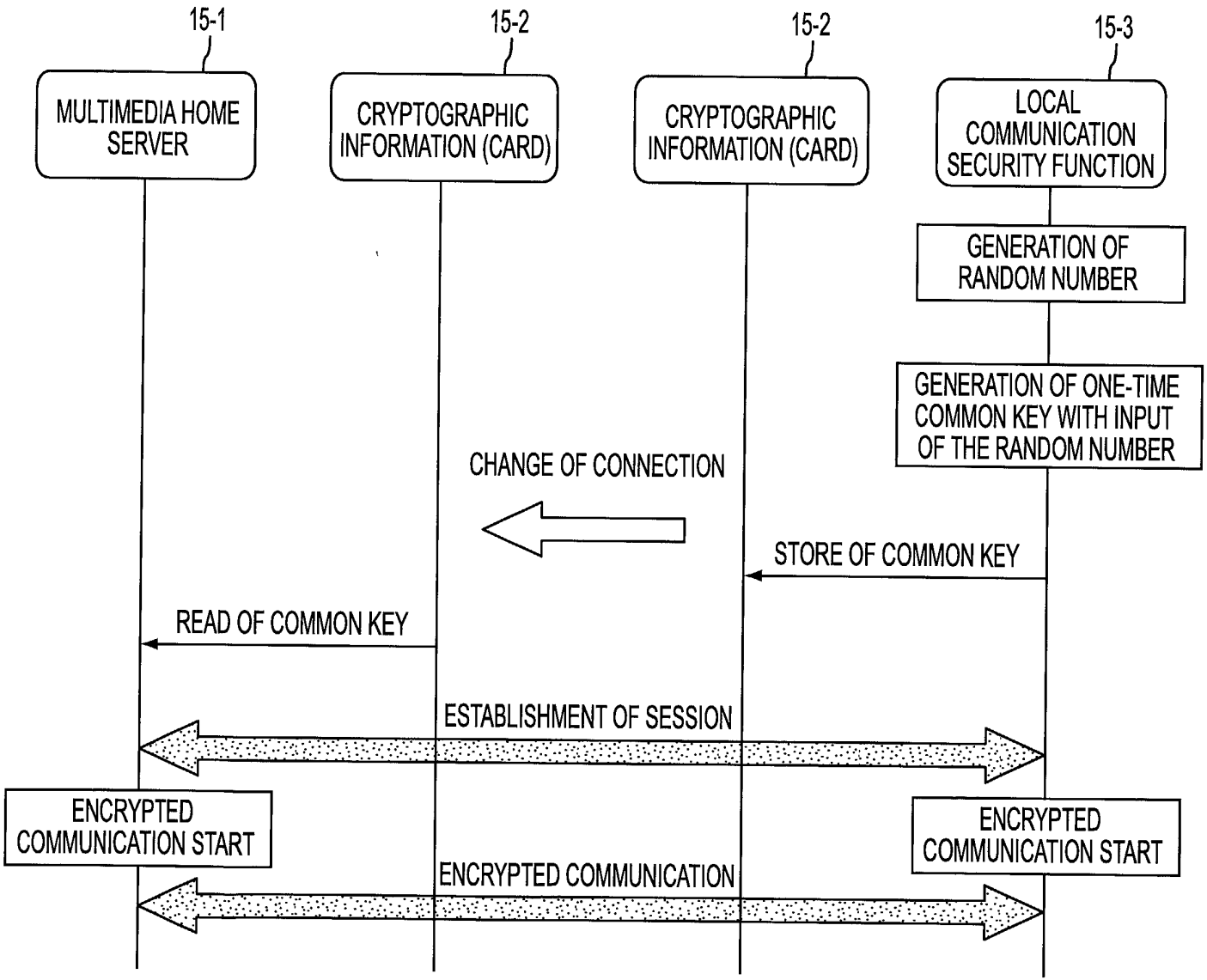
15-1
15-2
15-2
15-3
MULTIMEDIA HOME SERVER
CRYPTOGRAPHIC INFORMATION (CARD)
CRYPTOGRAPHIC INFORMATION (CARD)
LOCAL COMMUNICATION SECURITY FUNCTION
GENERATION OF RANDOM NUMBER
GENERATION OF ONE-TIME COMMON KEY WITH INPUT OF THE RANDOM NUMBER
CHANGE OF CONNECTION
STORE OF COMMON KEY
READ OF COMMON KEY
ESTABLISHMENT OF SESSION
ENCRYPTED COMMUNICATION START
ENCRYPTED COMMUNICATION START
ENCRYPTED COMMUNICATION

FIG. 15

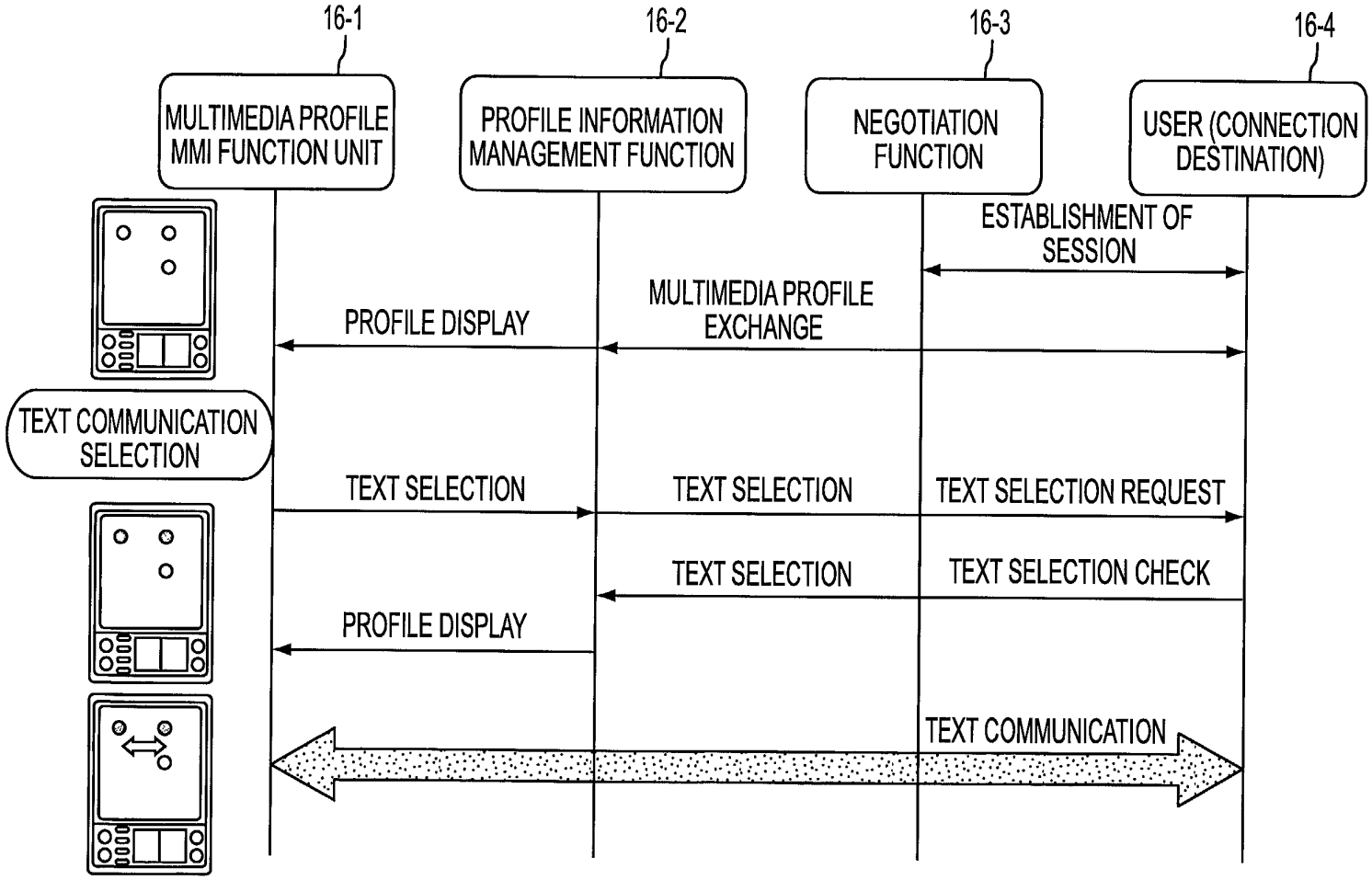
16-1
16-2
16-3
16-4
MULTIMEDIA PROFILE MMI FUNCTION UNIT
PROFILE INFORMATION MANAGEMENT FUNCTION
NEGOTIATION FUNCTION
USER (CONNECTION DESTINATION)
ESTABLISHMENT OF SESSION
MULTIMEDIA PROFILE EXCHANGE
PROFILE DISPLAY
TEXT COMMUNICATION SELECTION
TEXT SELECTION
TEXT SELECTION
TEXT SELECTION REQUEST
TEXT SELECTION
TEXT SELECTION CHECK
PROFILE DISPLAY
TEXT COMMUNICATION

FIG. 16

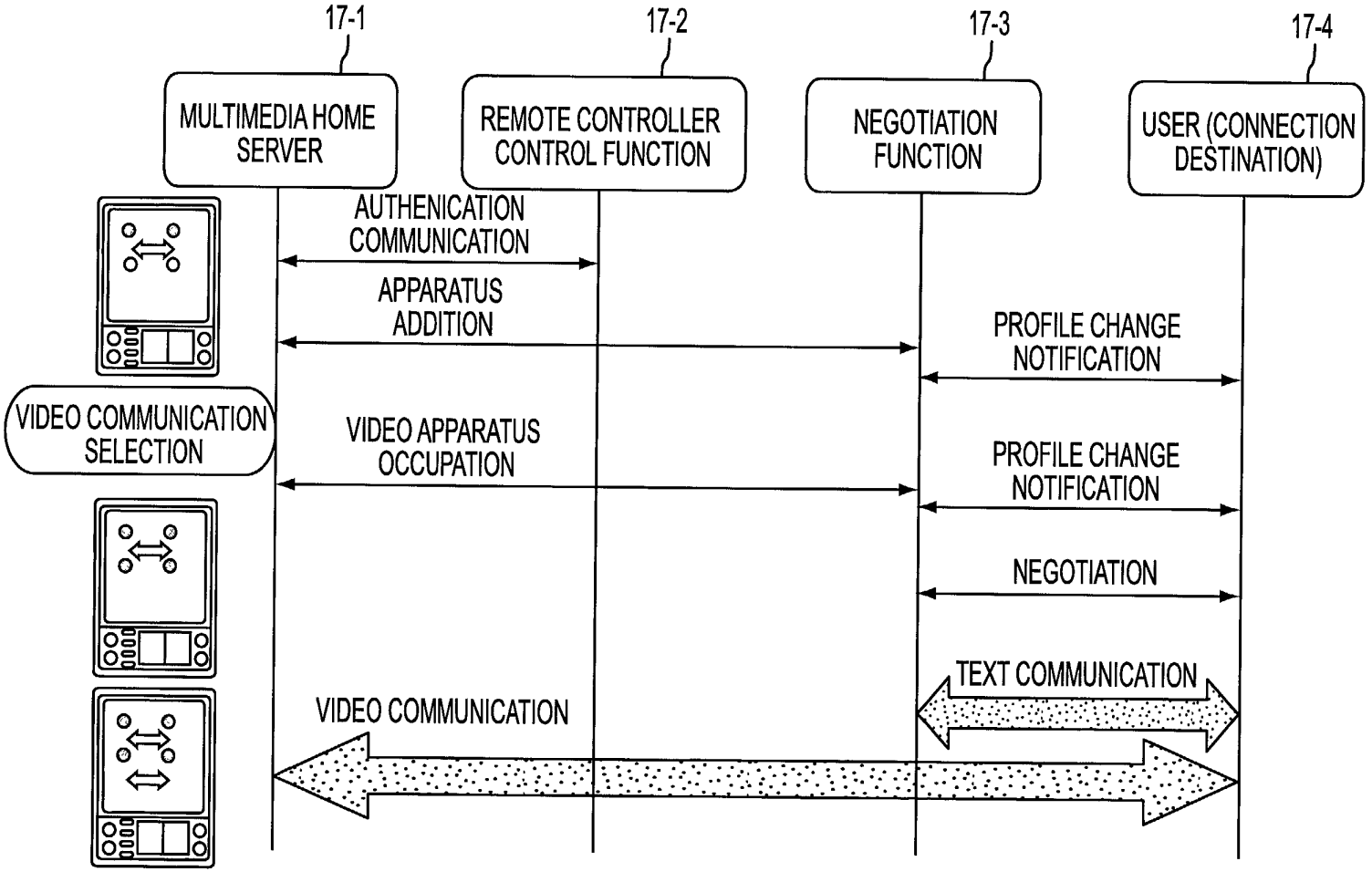
17-1
17-2
17-3
17-4
MULTIMEDIA HOME SERVER
REMOTE CONTROLLER CONTROL FUNCTION
NEGOTIATION FUNCTION
USER (CONNECTION DESTINATION)
AUTHENICATION COMMUNICATION
APPARATUS ADDITION
PROFILE CHANGE NOTIFICATION
VIDEO COMMUNICATION SELECTION
VIDEO APPARATUS OCCUPATION
PROFILE CHANGE NOTIFICATION
NEGOTIATION
TEXT COMMUNICATION
VIDEO COMMUNICATION

FIG. 17

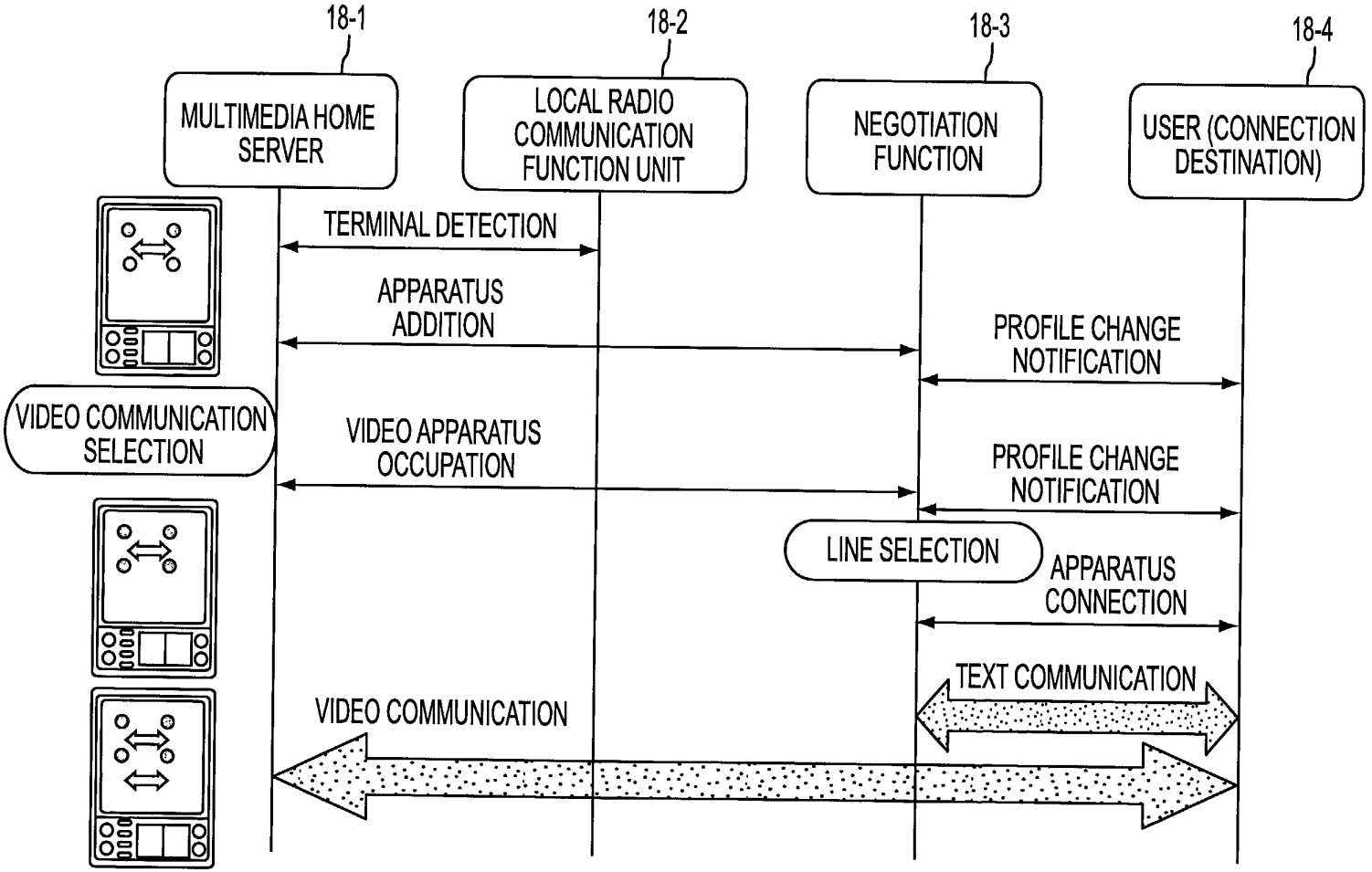
18-1
18-2
18-3
18-4
MULTIMEDIA HOME SERVER
LOCAL RADIO COMMUNICATION FUNCTION UNIT
NEGOTIATION FUNCTION
USER (CONNECTION DESTINATION)
TERMINAL DETECTION
APPARATUS ADDITION
PROFILE CHANGE NOTIFICATION
VIDEO COMMUNICATION SELECTION
VIDEO APPARATUS OCCUPATION
PROFILE CHANGE NOTIFICATION
LINE SELECTION
APPARATUS CONNECTION
TEXT COMMUNICATION
VIDEO COMMUNICATION

FIG. 18

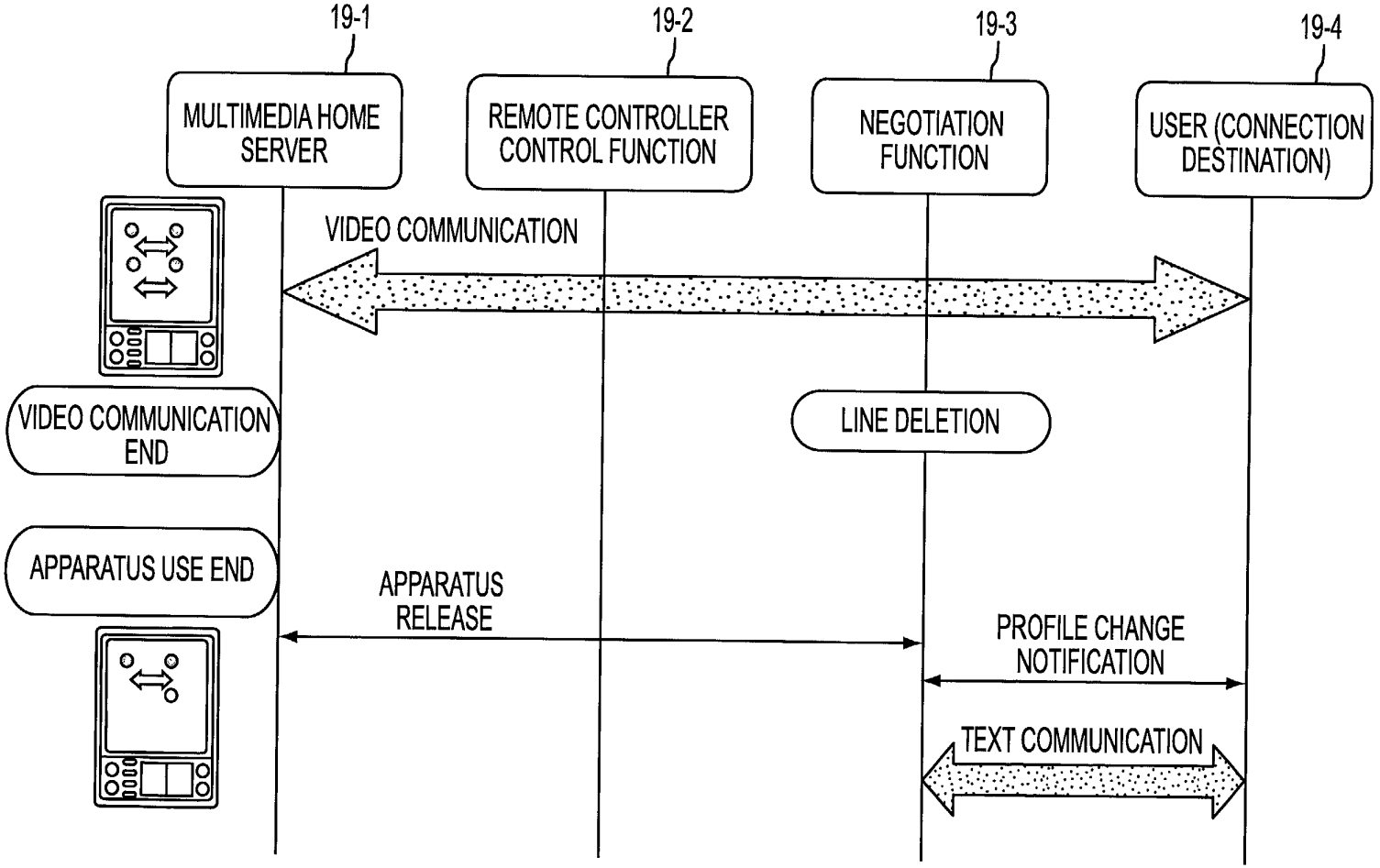
19-1
19-2
19-3
19-4
MULTIMEDIA HOME SERVER
REMOTE CONTROLLER CONTROL FUNCTION
NEGOTIATION FUNCTION
USER (CONNECTION DESTINATION)
VIDEO COMMUNICATION
VIDEO COMMUNICATION END
LINE DELETION
APPARATUS USE END
APPARATUS RELEASE
PROFILE CHANGE NOTIFICATION
TEXT COMMUNICATION

FIG. 19

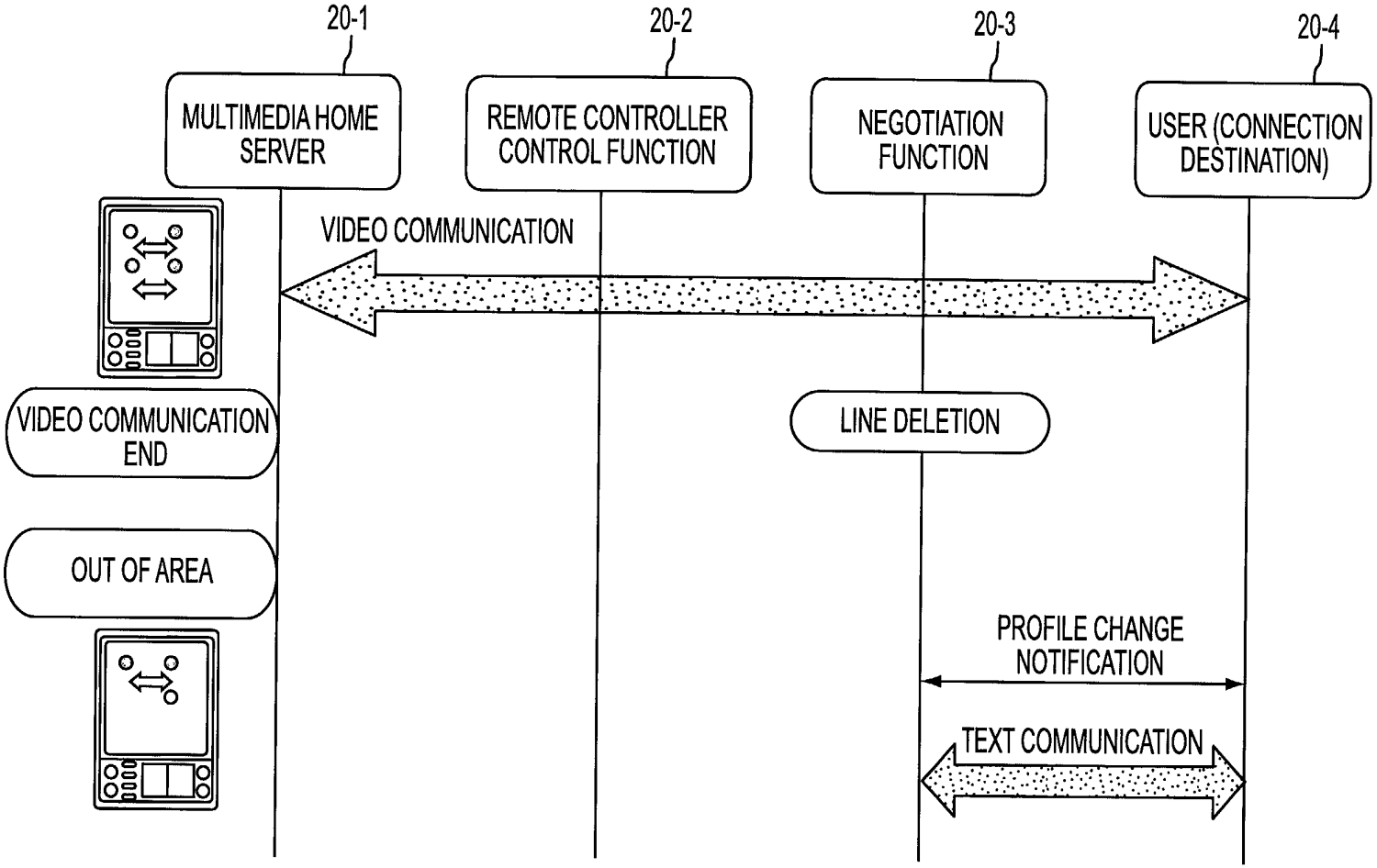
20-1
20-2
20-3
20-4
MULTIMEDIA HOME SERVER
REMOTE CONTROLLER CONTROL FUNCTION
NEGOTIATION FUNCTION
USER (CONNECTION DESTINATION)
VIDEO COMMUNICATION
VIDEO COMMUNICATION END
LINE DELETION
OUT OF AREA
PROFILE CHANGE NOTIFICATION
TEXT COMMUNICATION

FIG. 20

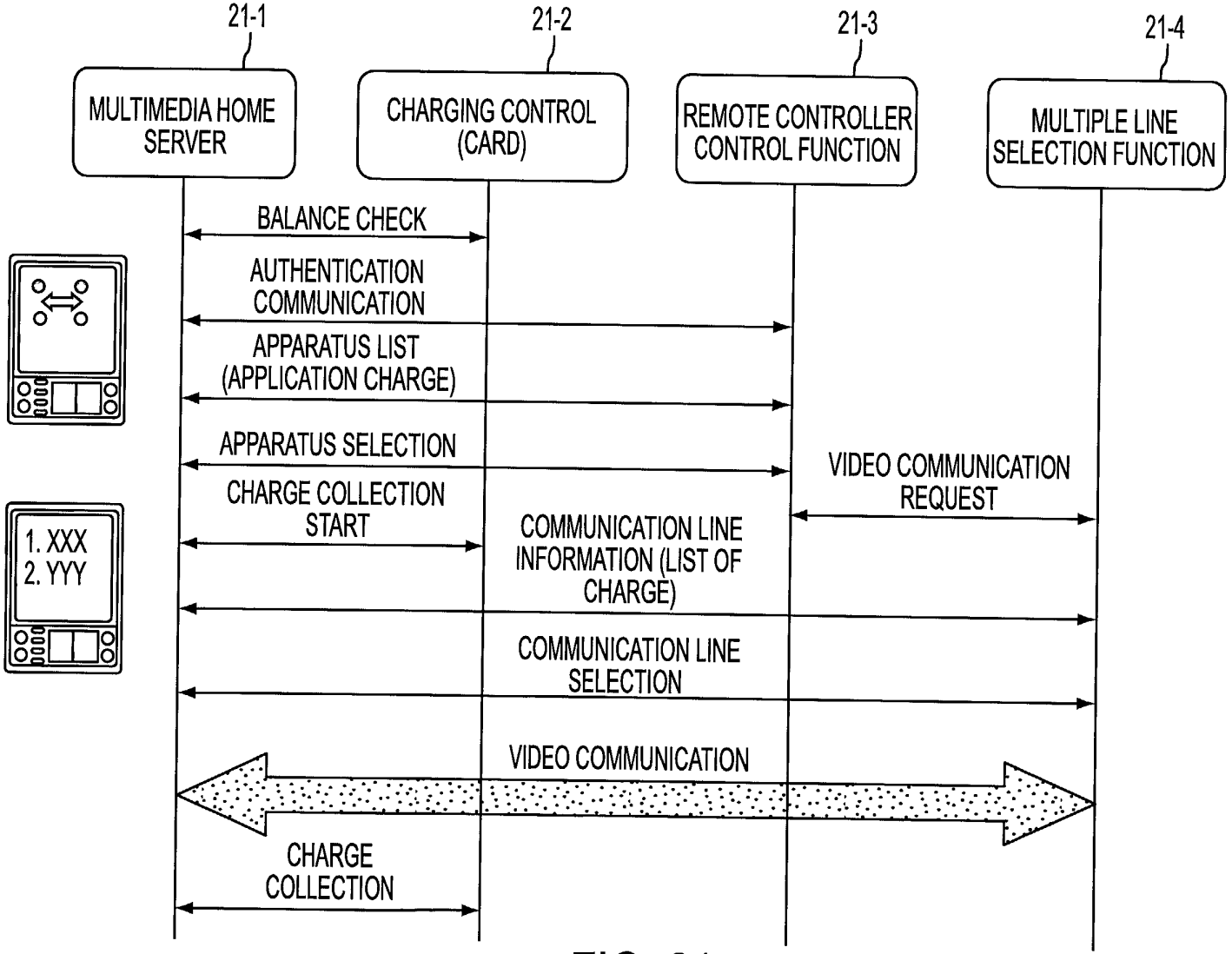
21-1
21-2
21-3
21-4
MULTIMEDIA HOME SERVER
CHARGING CONTROL (CARD)
REMOTE CONTROLLER CONTROL FUNCTION
MULTIPLE LINE SELECTION FUNCTION
BALANCE CHECK
AUTHENTICATION COMMUNICATION
APPARATUS LIST (APPLICATION CHARGE)
APPARATUS SELECTION
CHARGE COLLECTION START
1. XXX
2. YYY
VIDEO COMMUNICATION REQUEST
COMMUNICATION LINE INFORMATION (LIST OF CHARGE)
COMMUNICATION LINE SELECTION
VIDEO COMMUNICATION
CHARGE COLLECTION

FIG. 21

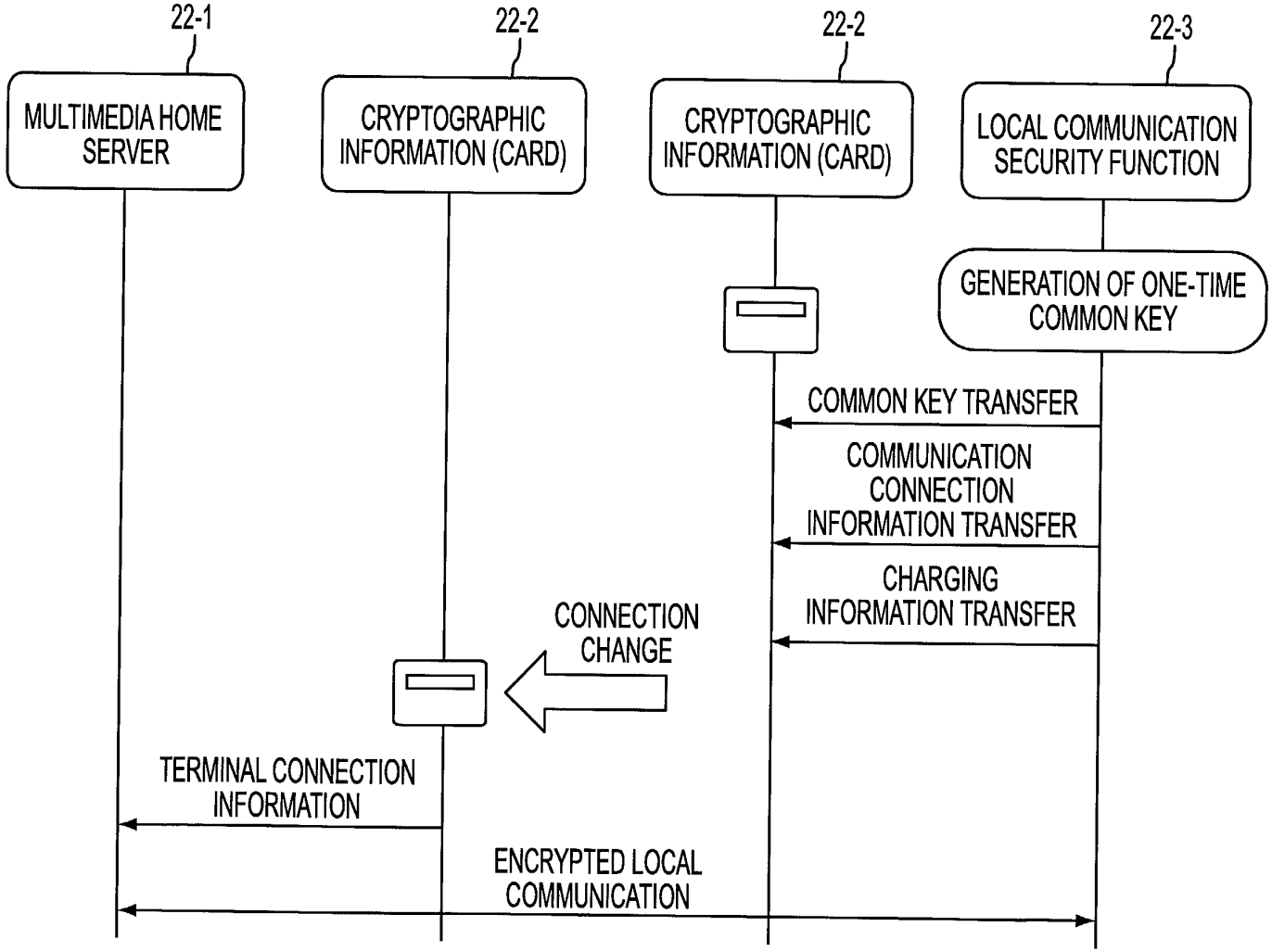
22-1
22-2
22-2
22-3
MULTIMEDIA HOME SERVER
CRYPTOGRAPHIC INFORMATION (CARD)
CRYPTOGRAPHIC INFORMATION (CARD)
LOCAL COMMUNICATION SECURITY FUNCTION
GENERATION OF ONE-TIME COMMON KEY
COMMON KEY TRANSFER
COMMUNICATION CONNECTION INFORMATION TRANSFER
CHARGING INFORMATION TRANSFER
CONNECTION CHANGE
TERMINAL CONNECTION INFORMATION
ENCRYPTED LOCAL COMMUNICATION

FIG. 22

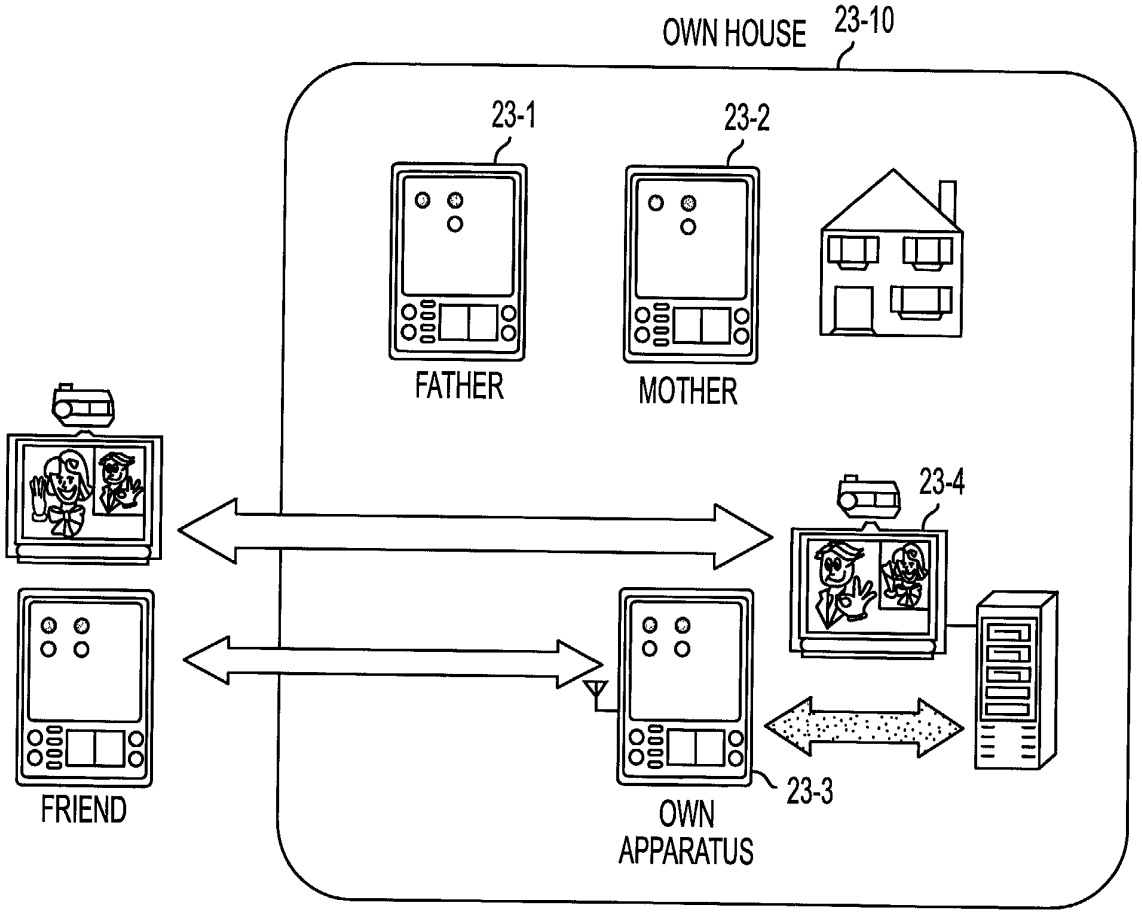
OWN HOUSE
23-10
23-1
23-2
FATHER
MOTHER
23-4
FRIEND
23-3
OWN
APPARATUS

FIG. 23

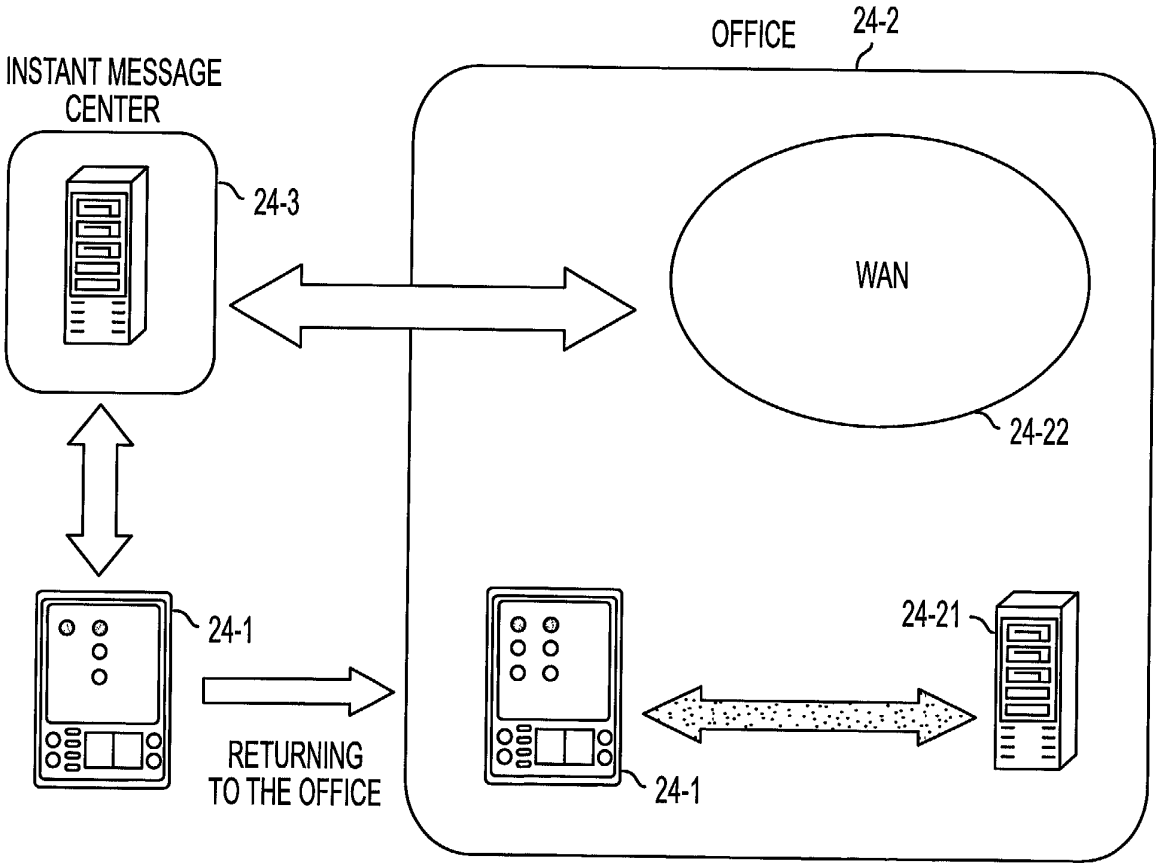
OFFICE
24-2
INSTANT MESSAGE CENTER
24-3
WAN
24-22
24-1
RETURNING TO THE OFFICE
24-1
24-21

FIG. 24

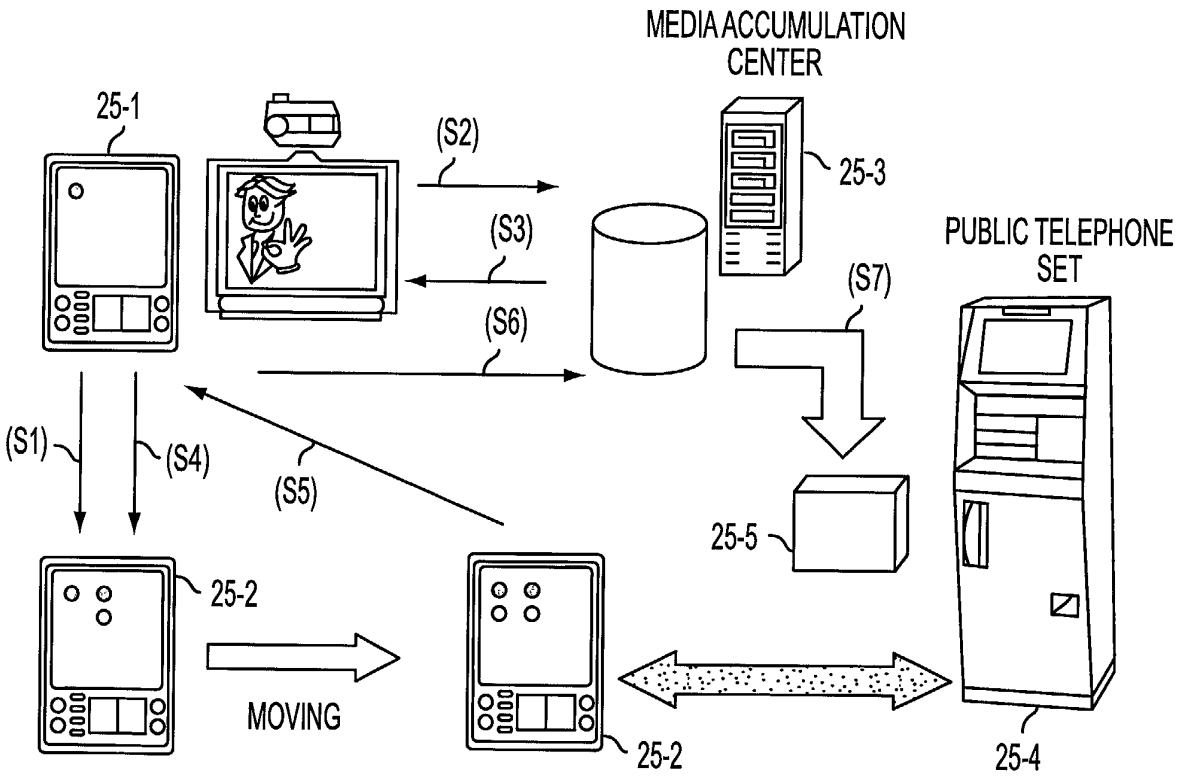
MEDIA ACCUMULATION CENTER
25-1
(S2)
25-3
(S3)
PUBLIC TELEPHONE SET
(S7)
(S6)
(S1)
(S4)
(S5)
25-5
25-2
MOVING
25-2
25-4

FIG. 25

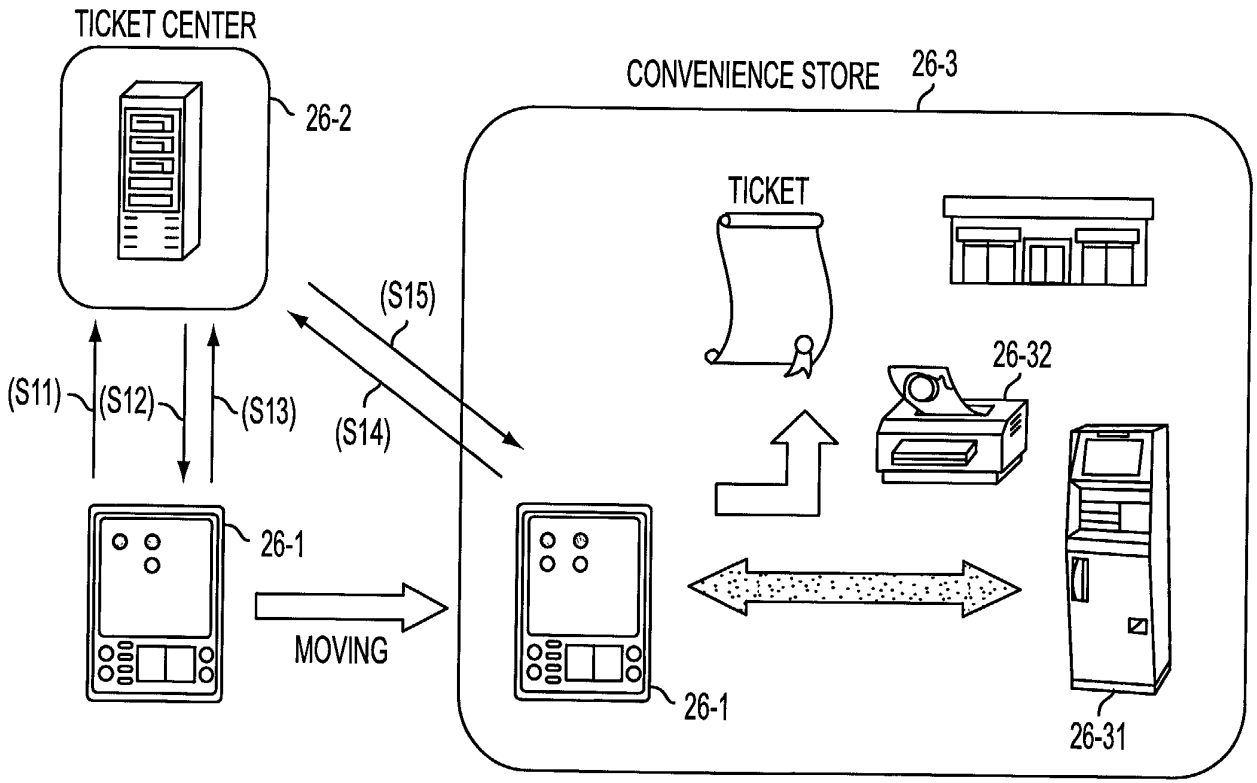
TICKET CENTER
26-2
CONVENIENCE STORE
26-3
TICKET
(S11)
(S12)
(S13)
(S14)
(S15)
26-32
26-1
MOVING
26-1
26-31

FIG. 26

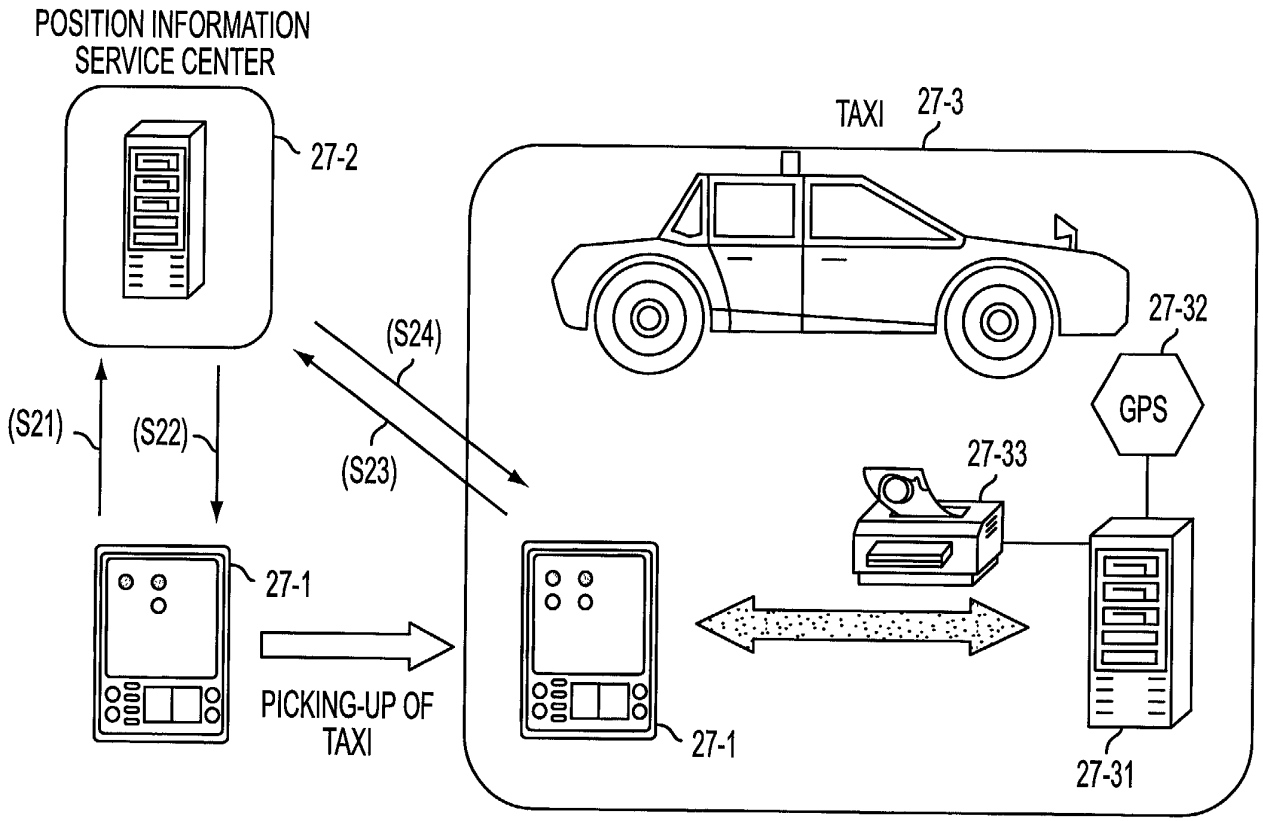
POSITION INFORMATION SERVICE CENTER
27-2
TAXI
27-3
27-32
GPS
27-33
(S24)
(S21)
(S22)
(S23)
27-1
PICKING-UP OF TAXI
27-1
27-31

FIG. 27

DIFFERENT APPARATUS CORRESPONDING TO THE COMMUNICATION SERVICES

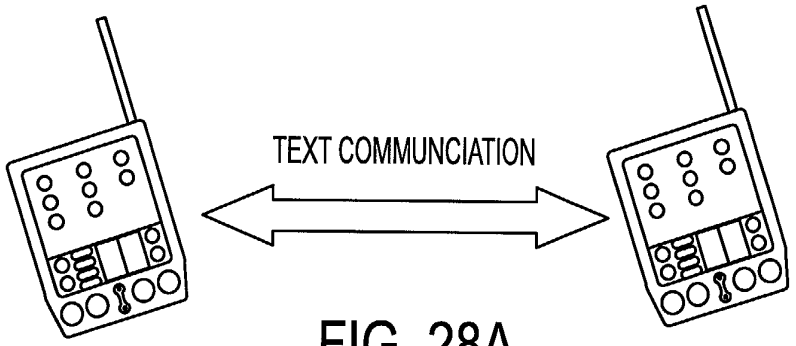

FIG. 28A

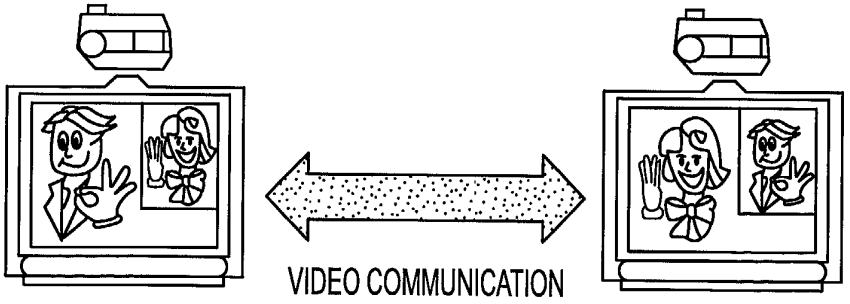

FIG. 28B

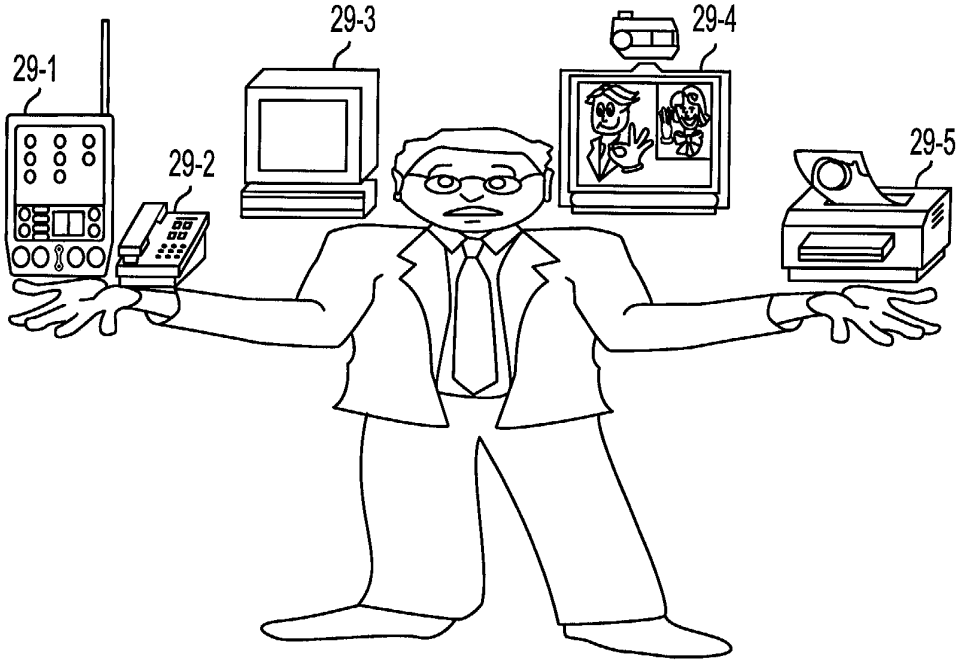

FIG. 29